

### **What is claimed is:**

1 1. In an electrically-powered device having a liquid-crystal display (LCD)  
2 comprising a driver and a plurality of pixels, wherein the optical characteristics of the liquid  
3 crystal associated with each pixel are defined by the selective local application of an electrical  
4 charge, a method of conserving electrical power comprising the steps of:

5 receiving, in a driver of the LCD, data containing an image for display on the  
6 LCD;

determining that power-conservation mode is appropriate according to predetermined criteria;

analyzing the image data in a microprocessor of the LCD driver to determine the pixel-charging sequence required to produce the image associated with the image data;

entering power-conservation mode by modifying the pixel-activation sequence to reduce the number of pixels to which voltage is to be supplied; and displaying on the LCD an image created by the modified pixel-activation

1 2. The method of claim 1, wherein the predetermined criteria for entering power-  
2 conservation mode is receipt of a user-entered instruction to enter power-conservation mode.

1 3. The method of claim 1, wherein the predetermined criteria for entering power  
2 conservation mode is a low-power indication generated within the device.

1       4.     The method of claim 1, wherein the predetermined criteria for entering a power  
2     conservation mode is a reduce-power signal received through a communications network.

1       5.     The method of claim 1, further comprising the steps of:  
2             determining that leaving power-consumption mode is appropriate according to  
3     predetermined criteria; and  
4             leaving power consumption mode by returning to full power for all pixels.

1       6.     The method of claim 1, further comprising the step of selectively alternating the  
2     subset of no-power pixels.

1       7.     The method of claim 1, wherein the predetermined criteria for entering power-  
2     conservation mode includes an indication of the level of ambient light.

1       8.     The method of claim 1, wherein the predetermined criteria for entering power  
2     conservation mode includes an automatically-generated timing signal.

1       9.     The method of claim 1, wherein the subset of no-power pixels is selected  
2     according to the image being displayed.

1 10. An LCD system, comprising:

2       an LCD display having a plurality of pixels that are variably activated to create a

3 video image; and

4       an LCD driver for receiving power from a power supply and selectively providing

5 power to activate the display pixels;

6       power-conservation circuitry coupled to the LCD driver for selectively applying

7 pre-determined power-conservation criteria by reducing from full power the power level

8 supplied to a selected subset of pixels.

1 11. The LCD system of claim 10, wherein the power-reduction applied to a selected

2 subset of pixels causes no power to be sent to the selected pixel subset.

1 12. The system of claim 11, wherein the subset of no-power pixels is selected based

2 on the image being displayed.

1        13. An improved portable electronic device for communicating with a  
2        communications network comprising:  
3                a receiver for receiving information from the communications network;  
4                a liquid-crystal display (LCD) comprising a plurality of pixels for displaying  
5        images according to the information received from the communications network;  
6                an LCD driver for receiving the received information and translating at least a  
7        portion of the information into instructions for selectively activating the pixels in order to  
8        produce an image, wherein the LCD driver determines if a power-conservation mode has been  
9        selected and, if so, modifies the instructions accordingly.

1        14. The device of claim 13, wherein the selection of power-conservation mode is  
2        done automatically.

1        15. The device of claim 14, wherein the automatic selection of power-conservation  
2        mode is responsive to a low-battery indication.

1        16. The device of claim 14, wherein the automatic selection of power-conservation  
2        mode is responsive to a signal received from the communications network.

1        17. The device of claim 16, wherein the signal received from the communications  
2        network is generated by the network upon detecting a device transmission strength lower than a  
3        pre-determined threshold.

1        18. The device of claim 13, wherein the instruction modification performed if power-  
2 conservation mode has been selected includes omitting a predetermined number of pixel-  
3 activations.

1        19. The device of claim 19, wherein the number of omitted pixel-activations is  
2 determined as a first selected percentage of the total number of pixels to be charged during a first  
3 defined portion of the pixel-activation sequence.

1        20. The device of claim 19, wherein approximately fifty percent of the pixel-  
2 activations are omitted.

1        21. The device of claim 19, wherein a second selected percentage of the total number  
2 of pixels to be activated determines the omitted pixel-activations in a second defined portion of  
3 the pixel-activation sequence.